

Remarks:

This amendment is submitted in an earnest effort to advance this case to issue without delay. The examiner has indicated that the case contains allowable subject matter.

The priority papers were filed with the original application papers and their receipt was acknowledged in the above-mentioned Examiner's Action. The undersigned hereby reiterates the priority claim made in the earlier-filed Declaration.

Claim 9 has been corrected to moot the objection to the drawing.

The specification has been amended to eliminate some minor obvious errors. No new matter whatsoever has been added. It is a mystery where the e's that do not appear in the PTO text have gone; they are in the file copy of the undersigned attorney.

Claim 8, which originally depended directly from independent claim 1, has been found to contain allowable subject matter. Accordingly, claim 8 has been amended by insertion into it of the subject matter of claim 1 making claim 8 allowable outright.

Claim 1 has been amended to define the invention with somewhat greater particularity over the art, in particular over US patent 4,116,454 of Schnizler and 5,458,345 of Amyot. Claim 1 has been narrowed as follows:

1. The tightening sleeve 13 and ring 11 are both described as being metallic.
2. The welt 19 from claim 2 has been added to claim 1.
3. The ridges 15 from claim 4 have been added to claim 1.

The instant invention is aimed at a hand-tightenable chuck, that is one where the user grips the sleeve with his/her hand to tighten and loosen the chuck, not using a key or tool. Thus it is important that there be a very solid torque-transmitting connection between the sleeve and the metallic ring that actually moves the chuck jaws.

According to the invention this torque-transmitting connection is created by forming the ring with a groove having transverse ridges, and then plastically deforming a metallic sleeve into the groove between the ridges. The result is an extremely solid connection.

In Schnizler the sleeve 3 is made of plastic and there are no ridges in the groove 12. The connection is therefore relatively weak and with time it is fairly certain that the sleeve 3 will be able to rotate on the ring 2. This is not a problem in

Schnizler, since this chuck is intended to be tightened and loosened by a key 6. The sleeve 3 is mainly a shield to protect and cover the rear ends of the guides in which the jaws 7 slide. Thus the structure of Schnizler is different, making a §102 rejection on Schnizler impossible. Since in Schnizler the connection does not have to transmit any significant torque, there would be no advantage to making the sleeve 3 of metal and forming the groove 13 with ridges, so a §103 rejection is similarly out of the question.

In Amyot the ring 9 has axially extending teeth 12 that dig into a sleeve 13 made of "synthetic material" (column 4, lines 21 and 23). There is no groove, so that a §102 rejection is impossible, and also so that the connection can be undone axially relatively easily, but for other clips and such provided in the structure. The teeth dig into the plastic sleeve and couple the two parts 9 and 13 together. This is an altogether different coupling system that does not suggest a welt deformed into a groove formed with transverse ridges, so as to form a solid axial and angular connection. There is no suggestion to make such a construction, so a §103 rejection on Amyot is also impossible.

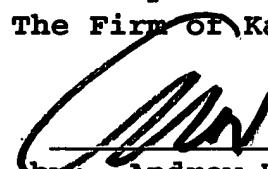
Since both Schnizler and Amyot teach that the sleeve should be made of plastic, there is no suggestion anywhere to make them of metal. In addition neither reference suggests transverse

ridges in a groove into which a metallic sleeve is deformed, so that the instant invention is clearly patentable over the applied art under §103.

For these reasons all the claim are clearly in condition for allowance. Notice to that effect is earnestly solicited.

If only minor problems that could be corrected by means of a telephone conference stand in the way of allowance of this case, the examiner is invited to call the undersigned to make the necessary corrections.

Respectfully submitted,  
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Enclosure: None.